

CLAIMS

What is claimed is:

1. A method of sucking a function liquid droplet ejection head, comprising the steps of:
 - bringing a cap into close contact with a nozzle surface of the function liquid droplet ejection head which ejects function liquid droplets; and
 - sucking the nozzle surface by an ejector.
2. The method according to claim 1, wherein a flow rate of a working fluid supplied to the ejector is controlled in order to have a constant suction pressure from the cap.
3. The method according to claim 1, wherein a suction pipeline from the cap to the ejector is opened to atmosphere when suction of the function liquid droplet ejection head is finished.
4. An apparatus for sucking a function liquid droplet ejection head in which a cap is brought into close contact with the function liquid droplet ejection head which ejects a function liquid, said sucking being made through the cap, said apparatus comprising:
 - an ejector which sucks all nozzles of the function liquid droplet ejection head in a state of being in fluid-flow communication with the cap; and
 - working fluid supply means for supplying the ejector with a working fluid.
5. The apparatus according to claim 4, wherein the ejector is interposed near the cap.
6. The apparatus according to claim 4, further comprising:

pressure detection means for detecting a pressure in a suction pipeline connecting the cap to a suction port of the ejector;
a flow rate regulating valve for regulating a flow rate of the working fluid supplied to the ejector, said valve being interposed in a working fluid supply pipeline connecting the working fluid supply means to a supply port of the ejector; and
first control means for controlling the flow rate regulating valve based on a detection result obtained by the pressure detection means.

7. The apparatus according to claim 6, wherein the first control means gradually closes the flow rate regulating valve when suction of the function liquid droplet ejection head is finished.

8. The apparatus according to claim 6, further comprising:
a suction pipeline gate valve which is interposed in the suction pipeline and which opens/closes the suction pipeline,
wherein the first control means closes the flow rate regulating valve and the suction pipeline gate valve when the suction of the function liquid droplet ejection head is finished.

9. The apparatus according to claim 8,
wherein the suction pipeline gate valve is made of a three-way valve having an atmosphere releasing port, and
wherein the first control means opens the atmosphere releasing port simultaneously with closing of the suction pipeline gate valve and opens the flow rate regulating valve again.

10. The apparatus according to claim 4, further comprising:
a storage tank which stores a function liquid in advance and is connected to a discharge port of the ejector by a discharge pipeline,
wherein the working fluid supply means is made up of a pump and is connected to the storage tank through a circulating pipeline to supply the function liquid as a working fluid.

11. The apparatus according to claim 10,
wherein a circulating pipeline gate valve made up of a three-way
valve having an atmosphere releasing port is interposed in the circulating
pipeline connecting the working fluid supply means to the storage tank,
and
wherein the suction apparatus further comprises second control
means for closing the circulating pipeline gate valve and opening the
atmosphere releasing port of the circulating pipeline gate valve when
suction of the function liquid droplet ejection head is finished.
12. The apparatus according to claim 4, wherein a plurality of
function liquid droplet ejection heads are provided, and a plurality of caps,
ejectors and suction pipelines are provided, respectively, in accordance
with the plurality of function liquid droplet ejection heads.
13. A liquid droplet ejection apparatus, comprising:
the suction apparatus for a function liquid droplet ejection head
according to claim 4; and
function liquid droplet ejection heads ejecting a function liquid onto
a workpiece.
14. A method of manufacturing an electrooptic device, wherein a
film formation part is formed on a workpiece by a function liquid, using the
liquid droplet ejection apparatus according to claim 13.
15. An electrooptic device, wherein a film formation part is formed
on a workpiece by a function liquid, using the liquid droplet ejection
apparatus according to claim 13.
16. An electronic equipment, wherein the electrooptic device
according to claim 15 is mounted.